

LED Lamps

SMD Display

multicomp



Specifications

| | |
|------------------|---------------------------------|
| Dice Material | : GaAlAs |
| Peak Wave Length | : 660nm |
| Emitted Colour | : Super Red |
| Viewing Angle | : 120° |
| Epoxy Colour | : Water Clear |
| IV | : 5.1 mcd |
| Package Size | : 2mm x 1.25mm x 0.8mm, SMD LED |

Electrical/Optical characteristics at TA = 25°C

| Parameter | Symbol | Min. | Typ | Max. | Unit | Test |
|------------------------------------------|-----------|------|-----|------|------|----------|
| Luminous Intensity | IV | 2.2 | 5.1 | 9 | mcd | IF = 5mA |
| Viewing Angle | 2θ½ | | 120 | | deg | |
| Peak Emission Wavelength | λp | | 660 | | nm | |
| Dominant Wavelength | λD | 632 | 643 | 660 | nm | |
| Spectral Line Half-Width | Δλ | | 20 | | nm | |
| Forward Voltage | VF | 1.6 | 1.7 | 1.8 | V | |
| Power Dissipation | Pd | | | 80 | mW | |
| Peak Forward Current (Duty1/10 @ 1kHz) | IF (Peak) | | | 100 | mA | |
| Recommended Operating Current | IF (Rec) | | 20 | | mA | |

Absolute Maximum Ratings : (TA = 25°C)

| | |
|----------------------------------------------------------------|-----------------------|
| Reverse Voltage | : 5 Volt |
| Reverse Current | : 10µA (VR = 5V) |
| Operating Temperature Range | : -40°C to +85°C |
| Storage Temperature Range | : -40°C to +100°C |
| Lead Soldering Temperature Range {1.6mm (1/16 inch) from body} | : 260°C For 5 Seconds |

Reliability test For LED Lamps

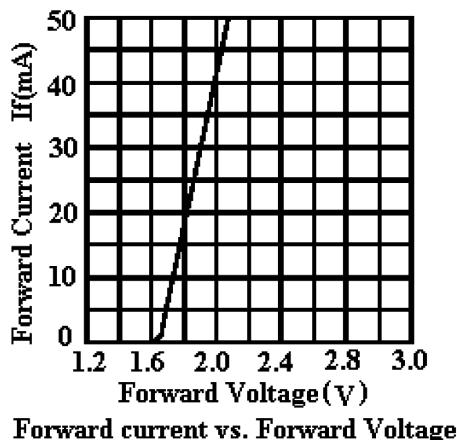
| Item | Test Conditions | Test Time/Cycle | Sample Size | Ac/Re | | |
|--------------------------------|---------------------------------------|-----------------|-------------|-------|--|--|
| DC Operating Life | Temperature : 25°C IF : 20mA | 1,000 Hrs. | 20 Pcs. | 0/1 | | |
| High Temperature High Humidity | Temperature : 85°C 85%RH | | | | | |
| High Temperature Storage | Temperature : 100°C | | | | | |
| Low Temperature Storage | Temperature : -40°C | | | | | |
| Temperature Cycling | 85°C~ 25°C~35°C 15min~ 5min~ 15min | 15 Cycles | | | | |
| Thermal Shock | 85°C~ 25°C~10°C 5min~ 10sec ~ 5min | | | | | |
| Solder Heat | Temperature : 260°C ±5°C | 10 Sec. | | | | |

LED Lamps SMD Display

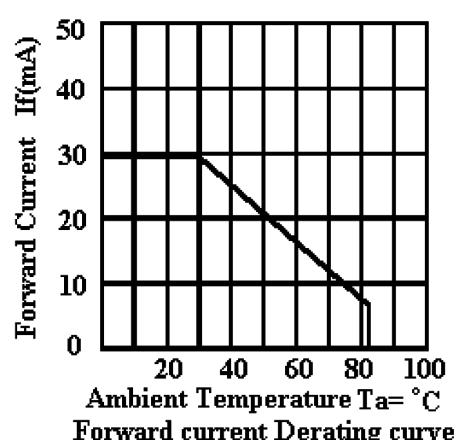
multicomp

Typical Electro-Optical Characteristics Curves

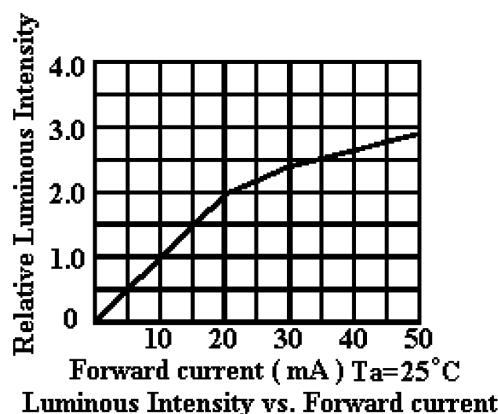
Super Red (GaAlAs) $\lambda P=660\text{nm}$)



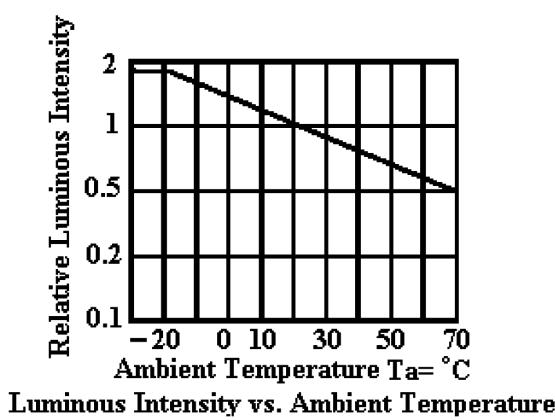
Forward current vs. Forward Voltage



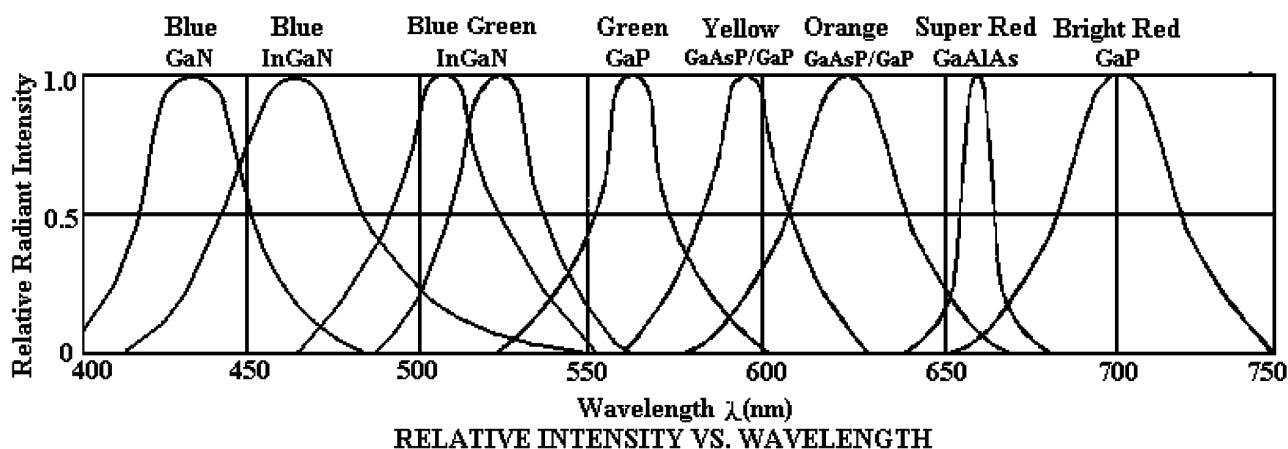
Forward current Derating curve



Luminous Intensity vs. Forward current



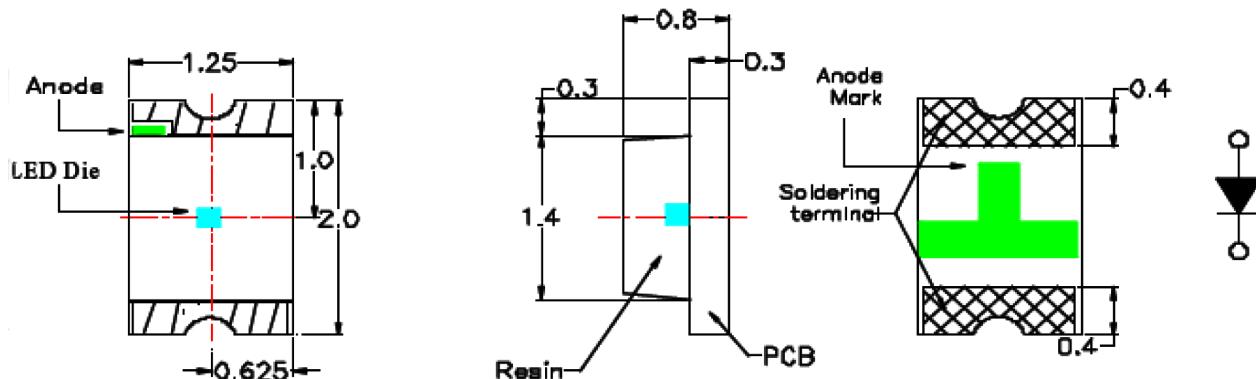
Luminous Intensity vs. Ambient Temperature



LED Lamps SMD Display

multicomp

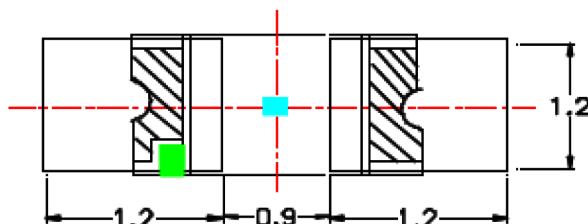
Dimensions:



1. Soldering terminal may shift in x, y direction.

Dimensions : Millimetres
Tolerance : $\pm 0.1\text{mm}$

Recommended Soldering Pad Dimensions:



Dimensions : Millimetres

Luminous Intensity BIN Limits

| Test Condition : @ 5mA | | |
|------------------------|-------------------------|-------------------------|
| BIN Code | I _{vmin} (mcd) | I _{vmax} (mcd) |
| C2 | 2.2 | 3.6 |
| D1 | 3.6 | 5.1 |
| D2 | 5.1 | 7.2 |
| E1 | 7.2 | 9 |

Dominant Wavelength BIN Limits

| Test Condition : @ 5mA | | |
|------------------------|------------------------------|------------------------------|
| BIN Code | λ_{dmin} (nm) | λ_{dmax} (nm) |
| 1 | 632 | 660 |

www.element14.com
www.farnell.com
www.newark.com

multicomp

LED Lamps SMD Display



Forward Voltage BIN Limits

| Test Condition : @ 5mA | | |
|------------------------|------------------------|------------------------|
| BIN Code | V _F min (V) | V _F max (V) |
| 1 | 1.5 | 1.6 |
| 2 | 1.6 | 1.7 |
| 3 | 1.7 | 1.8 |

Part Number Table

| Description | Part Number |
|----------------------------------------------------|-------------|
| LED, Red, SMD, 1.25mm x 1.4mm, 20mA, 1.85V, 643 nm | MCL-S270SRC |

Important Notice : This data sheet and its contents (the "Information") belong to the members of the Premier Farnell group of companies (the "Group") or are licensed to it. No licence is granted for the use of it other than for information purposes in connection with the products to which it relates. No licence of any intellectual property rights is granted. The Information is subject to change without notice and replaces all data sheets previously supplied. The Information supplied is believed to be accurate but the Group assumes no responsibility for its accuracy or completeness, any error in or omission from it or for any use made of it. Users of this data sheet should check for themselves the Information and the suitability of the products for their purpose and not make any assumptions based on information included or omitted. Liability for loss or damage resulting from any reliance on the Information or use of it (including liability resulting from negligence or where the Group was aware of the possibility of such loss or damage arising) is excluded. This will not operate to limit or restrict the Group's liability for death or personal injury resulting from its negligence. Multicomp is the registered trademark of the Group. © Premier Farnell Limited 2016.